



Week	Title	Standards Covered
1	Science and Engineering	
2	Scientists and Engineers Use the Five Senses	Nature of Science
3	You Can be a Scientist or Engineer	
4	The Engineering Design Process	Science and Engineering S.K.11, S.K.12, S.K.13
	Forc	es and Interactions: Pushes and Pulls
5	Structure and Function	Crosscutting Concepts
6	Motion	
7	What is a Push?	S.K.1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
8	What is a Pull?	
9	Engineering: Push and Pull	S.K.2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull. S.K.11, S.K.12, S.K.13
Inte	erdependent Relations	nips in Ecosystems: Animals, Plants, and Their Environment
10	Measurement and Data	Nature of Science
11	Living and Nonliving Things	Nature of Science
12	Plants Have Needs	
13	Animals Have Needs	S.K.3 Use observations to describe patterns of what plants and animals
14	Humans Have Needs	(including humans) need to survive. S.K.11, S.K.12, S.K.13
15	Engineering: Needs	
16	Cause and Effect	Crosscutting Concepts
17	Plants Change the Environment	
18	Animals Change the Environment	S.K.4 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
19	Humans Change the Environment	S.K.11, S.K.12, S.K.13
20	Engineering: Change	
21	Models	Nature of Science

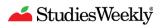




Week	Title	Standards Covered
22	Food chains	S.K.5 Use a model to represent the relationship between the needs of different
23	Habitats	plants and animals (including humans) and the places they live.
24	Engineering: Protect a Habitat	S.K.6 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. S.K.11, S.K.12, S.K.13
		Weather and Climate
25	Patterns	Crosscutting Concepts
26	The Sun	S.K.9 Make observations to determine the effect of sunlight on Earth's
27	Sun Protection	surface.
28	Engineering: Sun Protection	S.K.10 Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area. S.K.11, S.K.12, S.K.13
29	What is Weather?	S.K.7 Use and share observations of local weather conditions to describe
30	Weather Has Patterns	patterns over time.
31	Severe Weather	S.K.8 Ask questions to obtain information about the purpose of weather
32	Engineering: Weather	forecasting to prepare for, and respond to, severe weather. S.K.11, S.K.12, S.K.13



Week	Title	Standards Covered
1	Science and Engineering	
2	You Can Be a Scientist or Engineer!	Nature of Science
3	Teamwork	
4	Patterns	Crosscutting Concepts
5	The Engineering Design Process	Science and Engineering S.1.10, S.1.11, S.1.12
		Waves: Light and Sound
6	Cause and Effect	Crosscutting Concepts
7	What is Sound?	S.1.1 Plan and conduct investigations to provide evidence that vibrating
8	Features of Sound	materials can make sound and that sound can make materials vibrate.
9	What is Light?	S.1.2 Make observations to construct an evidence-based account that objects
10	Sources of Light	can be seen only when illuminated.
11	Light On Materials	S.1.3 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
12	Sound and Light	S.1.4 Use tools and materials to design and build a device that uses light or
13	Engineering: Sound and Light	sound to solve the problem of communicating over a distance. S.1.10, S.1.11, S.1.12
	Structi	ure, Function, and Information Processing
14	Structure and Function	Crosscutting Concepts
15	Animals Have Parts That Help Them	
16	Animals Live In Many Places	S.1.7 Use materials to design a solution to a human problem by mimicking
17	Plants Have Parts That Help Them	how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
18	Plants Live In Many Places	S.1.10, S.1.11, S.1.12
19	Engineering: Animals & Plants	
20	Models	Nature of Science
21	Animal Offspring	S.1.5 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
22	Plant Offspring	

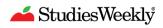




Week	Title	Standards Covered	
23	Animals and their Offspring		
24	Plants and their Offspring	S.1.6 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. S.1.10, S.1.11, S.1.12	
25	Engineering: Learning from Offspring		
	Space Systems: Patterns and Cycles		
26	Measurement and Data	Nature of Science	
27	Objects in Space		
28	Daytime Sky	S.1.8 Use observations of the sun, moon, and stars to describe patterns that	
29	Nighttime Sky	can be predicted.	
30	Phases of the Moon		
31	Seasons	S.1.9 Make observations at different times of year to relate the amount of	
32	Engineering Design: Sundial	daylight to the time of year. S.1.10, S.1.11, S.1.12	



Week	Title	Standards Covered
1	What Is Science? What Is Engineering?	
2	How Scientists and Engineers Think and Act	Nature of Science
3	Working Together	
4	Engineering Design Process	Science and Engineering S.2.12, S.2.13, S.2.14
5	Crosscutting Concepts	Crosscutting Concepts
6	Measurement and Data	Nature of Science
		Structure and Properties of Matter
7	States of Matter	
8	Properties of Matter	
9	Investigating Matter: Part One	S.2.1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
10	Investigating Matter: Part One	
11	Engineering Design: Catapults	S.2.2 Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. S.2.12, S.2.13, S.2.14
12	Assembly and Disassembly	S.2.3 Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.
13	Changes in States of Matter	S.2.4 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.
	Interd	lependent Relationships in Ecosystems
14	Germination and Plant Growth	S.2.5 Plan and conduct an investigation to determine if plants need sunlight and water to grow.
15	Plant Parts and Functions	
16	Pollination	S.2.6 Develop a simple model that mimics the function of an animal in
17	Seed Dispersal	dispersing seeds or pollinating plants. S.2.12, S.2.13, S.2.14
18	Engineering Design: Seed Dispersal or Pollination	

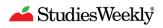




Week	Title	Standards Covered
19	Rainforest and Temperate Forest Habitats	
20	Tundra, Grassland, and Desert Habitats	S.2.7 Make observations of plants and animals to compare the diversity of life in different habitats.
21	Saltwater and Freshwater Habitats	
22	Human Impacts on Habitats	This week is optional.
	Earth's	Systems: Processes that Shape the Earth
23	Earth's Surface Changes Quickly	S.2.8 Use information from several sources to provide evidence that Earth
24	Earth's Surface Changes Slowly	events can occur quickly or slowly.
25	Natural Disaster Safeguards	
26	Engineering Design: Protection Against Flooding	S.2.9 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. S.2.12, S.2.13, S.2.14
27	Engineering Design: Protection Against High Winds	
28	Landforms	S.2.10 Develop a model to represent the shapes and kinds of land and bodies
29	Bodies of Water	of water in an area.
30	Water Cycle	C 2 11 Obtain information to identify where water is found as Forth and that it
31	Engineering Design: My Community's Landforms and Bodies of Water	S.2.11 Obtain information to identify where water is found on Earth and that it can be solid or liquid. S.2.12, S.2.13, S.2.14
32	Weather	This week is optional.



Week	Title	Standards Covered
1	Who Are Scientists and Engineers?	Nature of Science
2	Big Ideas of Science and Engineering	Crosscutting Concepts
3	Measurement and Data	Nature of Science
4	Engineering Design Process	Science and Engineering S.3.16, S.3.17, S.3.18
		Forces and Interactions
5	Forces	S.3.1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
6	Patterns in Forces	C 2 2 Make about stiens and /av massaurements of an abication to
7	Engineering Design: Why do I move when the car stops?	S.3.2 Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. S.3.17
8	Magnetic Forces	
9	Electromagnets	S.3.3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
10	Electric Forces	
11	Engineering Design: Magnetic and Electric Forces	S.3.4 Define a simple design problem that can be solved by applying scientific ideas about magnets. S.3.16, S.3.17, S.3.18
25,26,27	From 5th Grade	S.3.5 Support an argument that the gravitational force exerted by Earth on objects is directed toward the center of the Earth.
	Interd	ependent Relationships in Ecosystems
12	Surviving in a Group	S.3.6 Construct an argument that some animals form groups that help members survive.
(13)	(Fossils)	(used in 4th Grade: S.4.11) Analyze and interpret data from fossils to provide
(14)	(Clues from the Past)	evidence of the organisms and the environments in which they lived long ago.
15	Organisms in their Habitats	S.3.7 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive
16	Engineering Design: The Big Mix up	at all. S.3.16, S.3.17, S.3.18
17	Changing Ecosystems	S.3.8 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. S.3.16, S.3.17, S.3.18

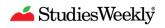




Week	Title	Standards Covered
18	People and the Ocean	S.3.8 Make a claim about the merit of a solution to a problem caused when
19	Engineering Design: Water Collection	the environment changes and the types of plants and animals that live there may change. S.3.16, S.3.17, S.3.18
	Inheritance	and Variation of Traits: Life Cycles and Traits
20	Life Cycles	S.3.9 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.
21	Inheriting Traits	S.3.10 Analyze and interpret data to provide evidence that plants and animals
22	Families	have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
23	Adaptations	
24	Are an Organism's Traits Influenced by the Environment?	S.3.11 Use evidence to support the explanation that traits can be influenced by the environment.
25	Variation Helps Organisms Survive	S.3.12 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
		Weather and Climate
26	What Will the Weather Be Today?	S.3.13 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
27	Weather vs Climate	S.3.14 Obtain and combine information to describe climates in different regions of the world.
28	Weather Hazards	S.3.15 Make a claim about the merit of a design solution that reduces the
29	Engineering Design: Can We Control the Weather?	impacts of a weather-related hazard. S.3.16, S.3.17, S.3.18
30	Matter	
31	What Is Energy?	These weeks are optional.
32	Engineering Design: Heat Transfer	

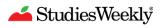


Week	Title	Standards Covered
		Introduction to Science
1	Measurement	Nature of Ociones
2	Data and Graphing	Nature of Science
3	Engineering Design Process	Science and Engineering S.4.14, S.4.15, S.4.16
4	Crosscutting Concepts	Crosscutting Concepts
5	Mindsets	Nature of Science
		Energy
6	Sound Energy	S.4.1 Use evidence to construct an explanation relating the speed of an
7	Let's Play Ball!	object to the energy of that object.
8	Law of Conservation of Energy	S.4.2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
9	Electricity	S.4.16
10	The Energy of Collision	S.4.3 Ask questions and predict outcomes about the changes in energy that occur when objects collide. S.4.14
11	Types of Energy	S.4.4 Apply scientific ideas to design, test, and refine a device that converts
12	Engineering Design: Rube Goldberg Machine	energy from one form to another. S.4.14, S.4.15, S.4.16
(13)	(Nonrenewable Energy)	(Used in 5th Grade: S.5.11) Obtain and combine information to describe that
(14)	(Renewable Energy)	energy and fuels are derived from natural resources and their uses affect the environment.
	'	Waves: Waves and Information
15	What Causes Changes in the Wavelength of a Wave?	S.4.5 Develop a model of waves to describe patterns in terms of amplitude
16	How Much Energy Is in a Wave?	and wavelength and that waves can cause objects to move.
17	Transferring Data	S.4.6 Generate and compare multiple solutions that use patterns to transfer information.
	Structure	, Function, and Information Processing
18	The Science of Eyesight	S.4.7 Develop a model to describe that light reflecting from objects and
19	Phases of the Moon	entering the eye allows objects to be seen.
20	What Is So Special About Leaves?	S.4.8 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and
21	Biodiversity	reproduction. S.4.14, S.4.15, S.4.16
22	Engineering Design:	





Week	Title	Standards Covered
	Hermit Crabs	
23	Animal Senses	
24	The Five Senses	S.4.9 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and
25	Adaptation	respond to the information in different ways.
	Earth's Sy	ystems: Processes that Shape the Earth
26	What Is a Fossil?	S.4.10 Identify evidence from patterns in rock formations and fossils in rock
27	The Rock Cycle	layers to support an explanation for changes in a landscape over time. S.4.16
13,14	From 3rd Grade	S.4.11 Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
28	Weathering and Erosion	S.4.12 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
29	Maps Are Models	S.4.13 Analyze and interpret data from maps to describe patterns of Earth's
30	Volcanoes	geological features.
(31)	(Engineering Design: Natural Disasters)	(Used in 5th Grade: S.5.12) Generate and compare multiple solutions to reduce the impacts of natural Earth processes on the human population. S.4.15
(32)	(Stopping the Impact!)	





Week	Title	Standards Covered
		Introduction to Science
1	Metric System and Measurement	Nature of Science
2	Crosscutting Concepts	Crosscutting Concepts
3	Engineering Design Process	Science and Engineering S.5.15, S.5.16, S.5.17
		Structure and Properties of Matter
4	What Is Matter?	S.5.2 Develop a model to describe that matter is made of particles too small to be seen.
5	States of Matter	S.5.3 Measure and graph quantities to provide evidence that regardless of the
6	Law of Conservation of Mass	type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
7	Properties of Matter: Part One	S.5.1 Make observations and measurements to identify materials based on their
8	Properties of Matter: Part Two	properties.
9	Engineering Design: Fixing Potholes	S.5.4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances. S.5.15, S.5.16, S.5.17
	Matter	and Energy in Organisms and Ecosystems
10	Matter Flow in Ecosystems	S.5.6 Use models to describe that energy in animals' food (used for body repair, growth, motion, and maintenance of body warmth) originated as energy from the sun.
11	Photosynthesis	S.5.5 Support an argument that plants get the materials they need for growth
12	Plants	chiefly from air and water.
13	Invasive Species	S.5.7 Develop a model to describe the movement of matter among plants,
14	The Carbon Connection	animals, decomposers, and the environment.
		Earth's Systems
15	Hydrosphere	
16	Geosphere	
17	Atmosphere	S.5.10 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
18	Biosphere	S.5.15, S.5.16, S.5.17
19	Engineering Design: Building Dams	
20	Types of Water	S.5.8 Describe and graph the amounts and percentages of water and fresh
21	The Role of Water	water in various reservoirs to provide evidence about the distribution of water on Earth.





Week	Title	Standards Covered	
22	Engineering Design: Oil Spill	S.5.9 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	
23	Protecting the Earth	S.5.9 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	
24	Engineering Design: Landfills	S.5.15, S.5.16, S.5.17	
13,14	From 4th Grade	S.5.11 : Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.	
31,32	From 4th Grade	S.5.12 : Generate and compare multiple solutions to reduce the impacts of natural Earth processes on the human population	
	Space Systems: Stars and the Solar System		
(25)	(What Is Gravity?)		
(26)	(Gravity in Space)	(Used in 3rd Grade S.3.5) Support an argument that the gravitational force exerted by Earth on objects is directed down.	
(27)	(Engineering Design: Mission to Mars)	S.5.15, S.5.16, S.5.17	
28	What Is a Star?	S.5.13 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.	
29	Shadows		
30	The Earth	S.5.14 Represent data in graphical displays to reveal patterns of daily changes in	
31	The Moon	length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	
32	The Seasons		